Developing the Learning Games Lab Toolkit: Engaging Learners from Diverse Backgrounds in Game Design

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Abstract: Members within and outside game design and game studies communities have critiqued the lack of diversity in the fields. Encouraging school-age children and youth from diverse backgrounds is one approach to addressing this concern. New Mexico State University's (NMSU) Learning Games Lab has developed a Toolkit that enhances children and youth's interests in being game developers, knowledge and skill in reviewing games and digital media, and engagement in the game design process. By using teaching and learning principles based in Universal Design for Learning, culturally responsive education, and media literacy, the Learning Games Lab creates learning experiences that cultivate a sense of belonging in game communities and foster critical thinking and creativity for children and youth of diverse backgrounds.

Introduction

"Diversity" is often a point of interest and conversation in game design and game studies communities, which acknowledges the need for the industry and field to shift to being more inclusive. However, representation has to extend beyond the number of people from different social groups to the process of welcoming people into the industry and that starts at school-age. While there are several strategies for encouraging more people of different identity groups to be a part of game design communities, creating opportunities for children and youth to engage in game design and review processes are necessary.

New Mexico State University's (NMSU) Learning Games Lab brings children and youth into the game design field by hosting summer "Think Tank" sessions, through which participants engage in a range of activities centered around game and media development. These programs engage students from upper elementary years to high school in the field of games and digital media as "Game Lab youth consultants". Learning Games Lab educators implement activities that give youth consultants the opportunity to play games, socialize with peers, and develop skills with digital media.

In recent years, Learning Games Lab educators have documented and refined these activities to focus on a variety of content areas: such as math, science and social and emotional learning (in collaboration with iThrive Games). These activities have now been compiled into the Learning Games Lab Toolkit (Figure 1) and structured in a way others can use the same activities in their programs.

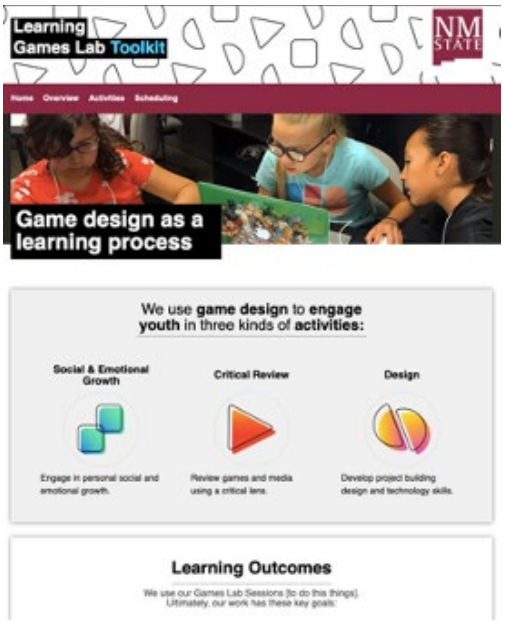

Figure 1.
Screenshot of Learning Games Lab Toolkit Website

The Learning Games Lab Toolkit (New Mexico State University, 2021) contributes to the conversation of racial justice by cultivating a sense of belonging in game communities through inviting youth consultants from diverse backgrounds to join and developing activities that account for learner variability and culture. The Toolkit also builds consultants' critical thinking and creativity, which enhances their understanding of the construction of media.

Cultivating Belonging in Game Communities

Inviting All Children and Youth to Participate

The game design community has been critiqued for its lack of diversity even though representation is valued. In recalling experiences in the gaming space, Bryant (2016) expresses the commonality of White heritage and maleness, and the infrequency of people from marginalized racial and gender communities, such as Black women, identifying folks who look like them. The Learning Games Lab's Think Tanks counter this by recruiting participants for Think Tanks who are children and youth from diverse backgrounds.

The team sends recruitment materials to informal education institutions, like libraries and museums, 4-H agents, families, school district leaders and teachers, university staff, faculty, and collaborators, and youth organizations. These materials include emails, flyers, social media posts, and word of mouth. The team uses accessible and welcoming language so that any child and youth who are interested in games, no matter their experience, feel comfortable with and capable of participating in Think Tanks. Phrases used include "We welcome returning consultants to participate in this session, but no prior experience at the lab is needed.", and "We encourage interested students to apply."

By placing recruitment materials in different places and using accessible language, children and youth from different backgrounds feel comfortable joining a session. Parents and guardians, who may still feel

uncertain if their "child" is the right kind of person, may call the Learning Games Lab's coordinator and address any questions. One result of the recruitment process' intentionality includes participation of children and youth from different racial, ethnic, gender, and class backgrounds.

Account for Learner Variability and Culture

Once consultants attend our session, Learning Games Lab Think Tank educators create activities that consider consultants' approaches to learning. In order to do this, educators incorporate Universal Design for Learning (UDL) and culturally responsive principles to inform the activities' development and implementation. These principles allow the team to make activities that encourage consultants to be game developers and allow them to engage with and connect to the content as well as learn from their peers.

Universal Design for Learning (UDL).

Universal Design for Learning is a set of teaching and learning guidelines that recognizes all students have the capacity and desire to learn and centers on the notion that "all learners can access and participate in meaningful, challenging learning opportunities" (CAST, 2018). To do this, UDL provides a framework for educators to consider multiple means for students to engage in content, representing information, and demonstrating learning. This type of approach is crucial for students, particularly those who represent Black, Indigenous, and People of Color (BIPOC) communities when often "rightness has equated to whiteness" (Fritzgerald, 2020, p. 34) and difference is associated with deficit, excluding the talents and genius of Black and Brown students. UDL counters the deficiency lens by "honor[ing] our students and provid[ing] on-ramps for all of our students so they can experience driving toward their own definition of success" (Fritzgerald, 2020, p. 47).

While one aim is to engage youth in game and media development, a second is to help youth critically review their use of media. Toolkit activities provide different ways for consultants to participate in game review and design activities. When reviewing, educators curate a list of vetted digital games on a specific content area, such as math or social-emotional. When curating games, educators consider games based on a variety of components that include: use on different devices, audience's grade level, accessibility, content presentation and subject, character diversity, point of view, and gameplay experience. Educators curate several games in a list and encourage consultants to play a few games for at least 20 - 30 minutes. After consultants select and play games, they review a game using an online tool, presentation tool, or word processing software, which are more open and allow consultants options for creating their reviews. Typically, educators repeat this activity utilizing different tools so that they learn consultants' approach to processing, synthesizing, and sharing information.

Culturally responsive.

Culturally responsive education is an asset-based approach to teaching and learning that uses the knowledge, experiences, cultures, and languages of students to create learning experiences to which students can connect (Gay, 2018). It also exposes students to accurate information of people from different cultures and exposes them to different perspectives, experiences, and knowledge to which they may not be familiar. Culturally responsive practices acknowledge that all students are capable of engaging technology and digital spaces, including those of BIPOC heritage who are underrepresented in the field (Scott, Sheridan, & Clark, 2014).

Toolkit activities use consultants' knowledge, experiences, culture, and interests as foundations for engaging them with digital tools and games. Starting the first day, consultants present information about themselves to peers, explain what they value in a prompt activity, and share how they define

design. Throughout the week, they address reflective questions to help them better understand their responses to different content areas and gameplay experiences. Building their awareness of self and their peers enhances their ability to connect and use their knowledge, experiences, culture, and interests when they review games and design.

Consultants play, discuss, and evaluate games in different ways throughout the week. From the curated list of games, they often play games with characters and storylines they can relate to as well as games that offer new content and different perspectives. Initially, educators provide consultants with a set criteria of game review categories. As a follow-up activity, consultants define additional areas to evaluate games by drawing on their experience and knowledge to collectively brainstorm categories with peers and educators. This activity helps consultants better understand what they value in games as well as exposes them to different people's values.

Additionally, consultants work with peers to complete an activity in which they pitch a game to be created. Oftentimes, these ideas are inspired from their daily experiences, interests, and cultures. They work in teams to generate an idea and then delegate tasks to each other based on their talents and preference. For instance, one consultant may decide to sketch characters and game levels, while another may summarize the goals and gameplay on a presentation software. Though there are a set of questions consultants are asked to address in their pitch, using an open-ended presentation software gives consultants options for conveying information about their game pitch to an audience.

Fostering Critical Thinking and Creativity Through Media Literacy

In order to build consultants' critical thinking and self-expression, educators develop consultants' media literacy skills and knowledge. Media literacy involves "helping children develop the life skills they need to become thinkers and makers in the multimedia environment that is their reality" (Rogow, 2015, p. 91). This literacy is developed by implementing learning experiences that include enhancing students' ability to analyze and evaluate media, reflect on design and production of media, and create media (Scheibe & Rogow, 2012). Media literacy experiences support students' ability to critically read the word and the world (Freire, 2005; Freire & Macedo, 1987) and understanding that knowledge is constructed by people (Banks & McGee Banks, 2010).

Applying Critical Thinking to Gameplay

During Think Tanks, consultants play games that vary in topics and perspectives, review games, and discuss these evaluations with peers several times. Exposure to different games helps consultants understand games present different goals, points of views, and ways of presenting subjects and issues. Educators scaffold game play and evaluation by starting with more general reviews where they express what they did and did not like in games and then introducing consultants to more specific categories, such as art/graphics, difficulty level, repeatability, accessibility, player change, and diversity. By the session's end, consultants' game reviews include a combination of components in which they review games based on what they value and what they learned from peers and educators.

Implementing Creative Opportunities

Building consultants' awareness of game variation and review skills enhances their understanding that people create games, and as a result of being a person, they can be creators and game developers too. Educators implement multiple activities in which consultants create and express themselves. Creativity is nurtured on the first day, when after learning about the Transformational Design Framework (Chamberlin & Schell, 2018), they compose a story in which a character experiences one or more of the changes illustrated in the framework. Their creativity is further developed as they work with peers to

make new rules to existing games, make their own criteria for reviewing games, and collaborate to generate game ideas from a set of themes and game mechanics. The culmination of the skills, knowledge, and experience generated from these creative activities are applied when they design their game pitch. Consultants collaborate with peers to brainstorm a game idea that will transform a player. For their pitch, consultants prepare a presentation and prototype, in which they succinctly convey the game's overview, how it will change the player, activities and play experience, and what makes their game unique. Completing a game pitch allows consultants to apply critical thinking skills and creativity in a contextualized way.

Conclusion

The Learning Games Lab Toolkit constructs learning experiences with games that invite all children and youth to participate in the community. Throughout the week, educators implement activities that affirm youth consultants' ways of knowing, being, and expressing, and emphasize the importance of their creativity, ideas, and perspectives. They develop a critical lens to games and an understanding of how games can be a vehicle for change, and they have agency in determining what that change can be. The Toolkit provides meaningful and relevant opportunities for children and youth to feel they belong in the game community, particularly those who may not be represented based on race and ethnicity, and that being game developers is a career option for them.

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